

a) $\lambda = 400 \text{ nm}$

Find E for incident light

$$E = h \cdot f = \frac{h \cdot c}{\lambda}$$

$$E = \frac{(1240 \text{ eV} \cdot \text{nm})}{(400 \text{ nm})}$$

$$E = 3.10 \text{ eV}$$

Photoelectric effect occurs if $E > \phi$

This is true for Lithium

b) $E = 3.1 \text{ eV}$ (for lithium)
 $\phi = 2.30 \text{ eV}$

$$KE_{\text{max}} = E - \phi$$

$$= (3.10 \text{ eV}) - (2.30 \text{ eV})$$

$KE_{\text{max}} = .80 \text{ eV}$